



March 29, 1996

Proposed ROD Amendment

Gould Superfund Site

Portland, Oregon

Introduction

This proposed Record of Decision (ROD) Amendment identifies the recommendation for completing the cleanup of contaminated soil at the Gould Superfund Site in Portland, Oregon. The ROD is a public document that explains the cleanup alternatives that will be used at a Superfund site. Gould Battery, a former lead smelter and battery recycling facility, was added to EPA's National Priorities List (Superfund) in 1983 because of documented lead contamination. Discarded battery casing materials and other lead smelter waste were used as fill on the Gould site and an adjacent property.

In March 1988, EPA issued a ROD which detailed the actions deemed necessary to clean up the contamination. The selected remedy involved removing and recycling lead from battery casings; fixation of contaminated soil; and monitoring air, ground water and surface water quality. The need for a revised plan arose from concerns that the selected remedy was no longer appropriate based on operating experience and conditions at the site.

The proposed amendment represents changes in portions of the cleanup remedy previously selected at the site. EPA encourages public input on the proposed amendment to make sure that the remedy meets statutory requirements and addresses community concerns. The Gould PRP proposal, which is described in a report called the Amended Remedy Document, the site investigation studies, and other pertinent documents are available in the Information Repositories (see last page), and should be consulted for in-depth details on the development and evaluation of this recommendation.

Public Comment Period

The United States Environmental Protection Agency's (EPA) will accept written comments on the proposed amendment during a public comment period from April 1, 1996 to May 1, 1996.

Public input on this proposal is important to the cleanup remedy selection process. Based on new information or public comment, EPA may modify the proposed amendment. The public is encouraged to review and comment on this proposal.

Comments should be addressed to:

Chip Humphrey
EPA, Oregon Operations Office
811 SW Sixth Avenue
Portland, Oregon 97201

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Public Meeting

EPA will provide the opportunity for a public meeting to discuss and receive comments on the proposed cleanup plan, if there is sufficient community interest. If you are interested in a meeting, call or write to one the following by April 10, 1996.

Chip Humphrey, Site Manager
Oregon Operations Office
811 SW Sixth Avenue
Portland, Oregon 97201
(503) 326-2678

Jean Baker, Community Relations
Coordinator
Region 10 EPA
1200 Sixth Avenue (ECO-081)
Seattle, Washington 98101
(206) 553-2587

People with impaired hearing or speech may contact EPA's telecommunications device for the hearing impaired (TDD) at (206) 553-1698. To ensure effective communication with everyone, additional services can be made available to persons with disabilities by contacting one of the numbers listed above.

The 1988 Record of Decision

Cleanup activity at the Gould site has been suspended until EPA makes a determination on changes to the remedy previously selected in the 1988 Record of Decision (ROD).

The major components of remedy in the 1988 ROD included:

- remove lead from the battery casings through recycling;
- reduce the mobility of lead in the contaminated soil, sediment and matte at the site through fixation;

- continue monitoring surface water and groundwater at the site while additional study of contamination in these media is conducted; and
- monitor ambient air around the site to ensure that cleanup activities are carried out in a manner that protects public health.

It was EPA's intent in selecting this remedy to treat all of the battery casings at the site while minimizing the amount of material that must be sent to a hazardous waste landfill.

Treatment and removal of casings and treatment of soils was intended to remove lead and eliminate potential for exposure due to direct contact, inhalation, and ingestion. Immobilization of lead in soils, sediment, and matte was intended to reduce migration of lead as a potential source of further contamination to groundwater and surface water.

The Cleanup Work So Far

Excavation and treatment of contaminated surface soils, battery casing piles, buried battery casings, matte (smelter waste), and other debris began in the summer of 1993. Excavated battery casings were processed through a battery treatment plant to separate materials (lead fines, metallic lead, clean plastic, and clean ebonite) for recycle. Contaminated soil and matte were stabilized to bind contaminants for backfilling on site.

An estimated 26,000 tons of contaminated battery casings have been treated through the treatment/separation process, with 244 tons of plastic and 88 tons of coarse lead recycled. An estimated 20,000 blocks (each measuring one cubic yard) of stabilized material have been produced and stored on site. Several hundred tons of debris have also been shipped off site for disposal. Approximately 15,000 cubic yards of untreated contaminated material is currently stockpiled on site.

Several problems were encountered during the first year of operation. It was difficult to process the highly variable waste feed with consistent results in spite of numerous

modifications made to improve the process. Estimated costs to complete the project also increased substantially.

The battery plant produced metallic lead and plastic products for recycle, but there were problems with the ebonite and lead fines products. There is essentially no demand for the ebonite product and the lead fines product is much lower in concentration than was anticipated for recycle.

In May, 1994, EPA allowed the site Potentially Responsible Parties (PRPs) to evaluate alternative remedial actions and conduct test studies in order to improve efficiency and reliability at the site. A PRP may be an owner, operator, transporter, or generator potentially responsible for or contributing to contamination problems at a Superfund site. Work on the battery recycle process was suspended and cleanup efforts shifted to stabilization of waste materials.

Description of Proposed Changes to the Remedy

EPA has determined that the battery treatment/separation process is no longer appropriate for completing the cleanup. Moreover, future cleanup actions for portions of the site must be coordinated with the ongoing contaminant investigation for the adjacent Rhone Poulenc site. The major proposed changes to the remedy are described below:

1) The contaminated materials that are stockpiled on site and additional contaminated material to be excavated will not be treated in the battery treatment/recycle plant.

After the contaminated material that is classified as the principle threat has been stabilized, waste will be consolidated into an on-site containment facility. The on-site containment facility will provide additional protection from organic contamination that is commingled with lead waste by eliminating pathways of exposure. The on-site containment facility will be designed to comply with federal requirements for hazardous waste landfills.

2) Excavation of matte (a smelter waste material that was deposited on the Gould property) will be limited to material which is above the water table.

Excavation of subsurface matte and debris below the water table will not be performed as part of the proposed plan. Additional investigation of the Gould property indicated that the amount of battery casings on the Gould property was greatly overestimated in the 1988 ROD. Most of the remaining subsurface material is smelter matte and minor amounts of slag and debris. Investigation and monitoring also indicates that stabilization to reduce the mobility of the subsurface material may be of questionable benefit. There is little evidence that lead associated with the matte material at the site is mobile or has had a significant impact on area groundwater. The remaining battery casings on the Gould property, and matte and debris located above the water table will be excavated and placed in the on-site containment facility.

3) Excavation of the remaining battery casings on the Rhone Poulenc and ESCO property portions of the Site will not be included in the remedy at this time.

Approximately 10,200 cubic yards of casings have been excavated and treated from this portion of the site. Concerns have been raised that further excavation in this area may adversely affect the migration of organic contaminants in groundwater associated with previous pesticide/herbicide manufacturing operations at Rhone Poulenc. Rhone Poulenc is currently investigating this area under a consent order with the Oregon Department of Environmental Quality (DEQ). EPA will coordinate future cleanup determinations regarding the battery casings and other contaminated materials located on this portion of the site with DEQ.

4) The East Doane Lake remnant will be filled to provide additional surface area for construction of the on-site containment facility, to eliminate surface pathways of exposure, and to allow future use of the property.

The proposed remedy includes excavation of the remaining battery casings on the Gould property portion of the site; dredging and de-watering of sediments from the East Doane Lake remnant; and containing the sediments, stockpiled materials (including previously treated materials and shallow soils and debris) in a lined and capped on-site containment facility on the Gould property. The proposed facility will cover most of Gould property, up to approximately 8.5 acres, including the area now within the East Doane Lake remnant (see Figure 1). This proposed remedy will allow future industrial use of the Gould property.

When completed, the containment facility will hold approximately 60,000 cubic yards of contaminated waste material, sediment, soil, and debris. It will have a total thickness of approximately eight feet, including bottom liner, waste and impacted soil, cap system, and asphalt surface. A cross section of the containment facility is presented in Figure 2.

Groundwater monitoring at the site will be required to ensure that the proposed remedy continues to protect area groundwater and to provide information regarding future excavation of lead contaminated waste material on the Rhone Poulenc property. Ambient air monitoring around the site will continue during construction to make sure that the work is done in a manner that protects public health. Institutional controls will be developed to ensure that the integrity of the landfill is maintained and future use of the property is compatible with the cleanup.

Additional Site Investigations

Since the ROD was issued, significant additional information has been obtained regarding the nature and extent of contamination by lead and other chemicals in soils and other fill materials, ground water, and surface water at the Site.

Additional site investigations were conducted because of apparent discrepancies between the amount of materials estimated in the ROD with those encountered during site construction. The investigation determined that the amount of

battery casings on the Gould property was significantly overestimated (54,100 cubic yards ROD estimate vs revised estimate of 9700 cubic yards).

Results of recent groundwater monitoring have not confirmed previous data that showed lead contamination in area groundwater. Recent data indicate that lead contamination is not widespread or significant in groundwater near the site. Although it does not appear there is a current need for any extensive treatment of groundwater for lead, monitoring will be continued to further evaluate site conditions and provide a basis for future cleanup or no action decisions for groundwater.

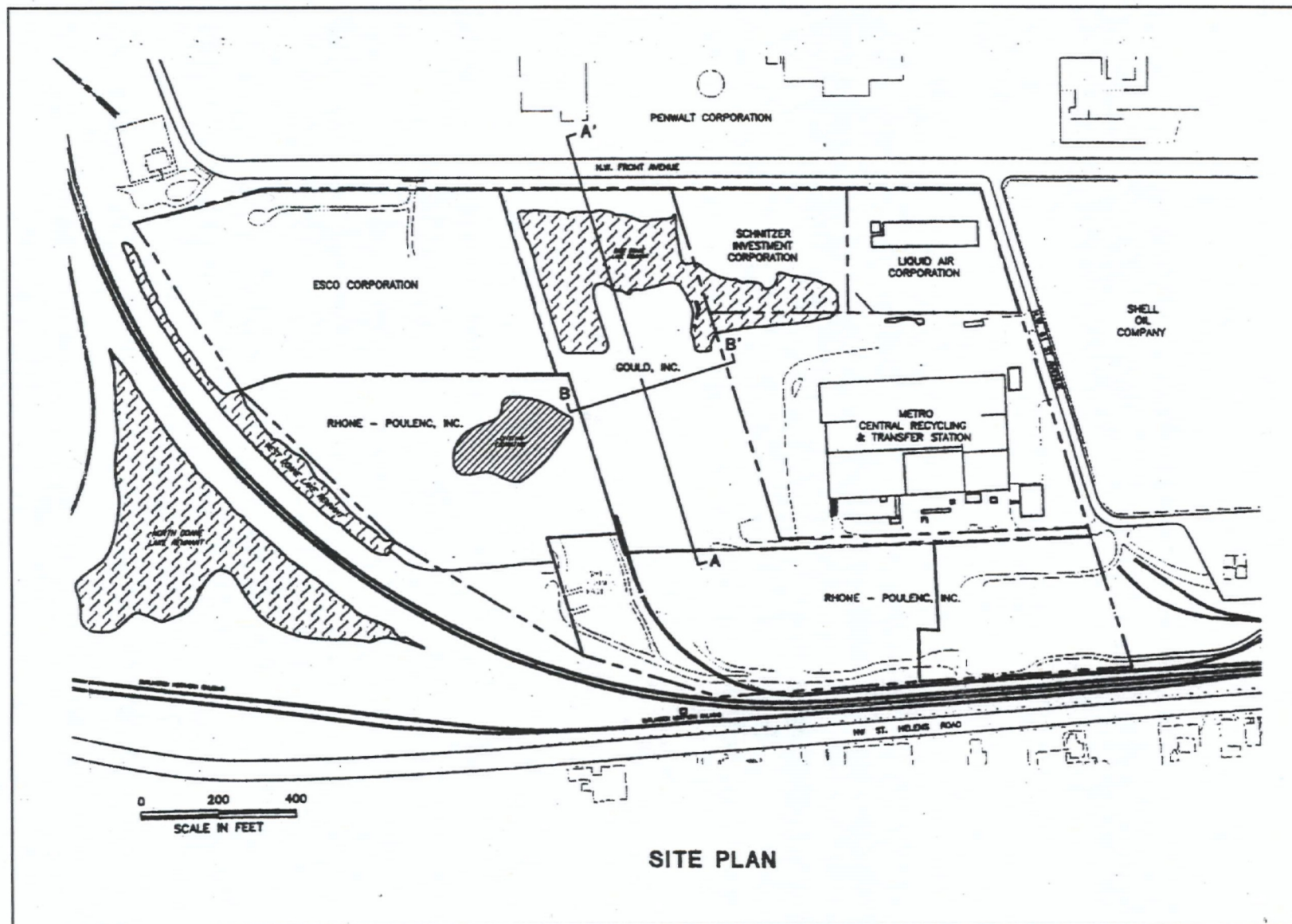
Sampling and Analysis for Organic Constituents

Organic chemicals of concern have been encountered during a number of investigations of the Gould Site and surrounding areas. Rhone Poulenc is conducting an investigation of soils and ground water, including those portions of its property that are within the Gould Site cleanup area.

The information regarding organic chemicals in surface and ground water that resulted from certain earlier investigations was reviewed and summarized in the Review of Organics Data Collected at the Gould Superfund site (ENVIRON 1994b). Ground water samples collected at the site from wells and temporary well points on Rhone Poulenc property have had the following types of organic compounds reported: phenols, herbicides, dioxins, and furans. Organic compounds detected in surface water samples from the excavation pit on Rhone Poulenc property include 1,2-dichlorobenzene; 2,4-D; 2,4,5-T; 2,4,5-TP (Silvex); xylenes; and dioxins and furans.

Additional information regarding organic chemicals in sediments, stockpiled material and stabilized blocks was collected and presented in the Amended Remedy Document. Levels of organics detected in soil, sediments, stockpiled material and stabilized blocks were generally below 1 part per million (ppm).

Figure 1



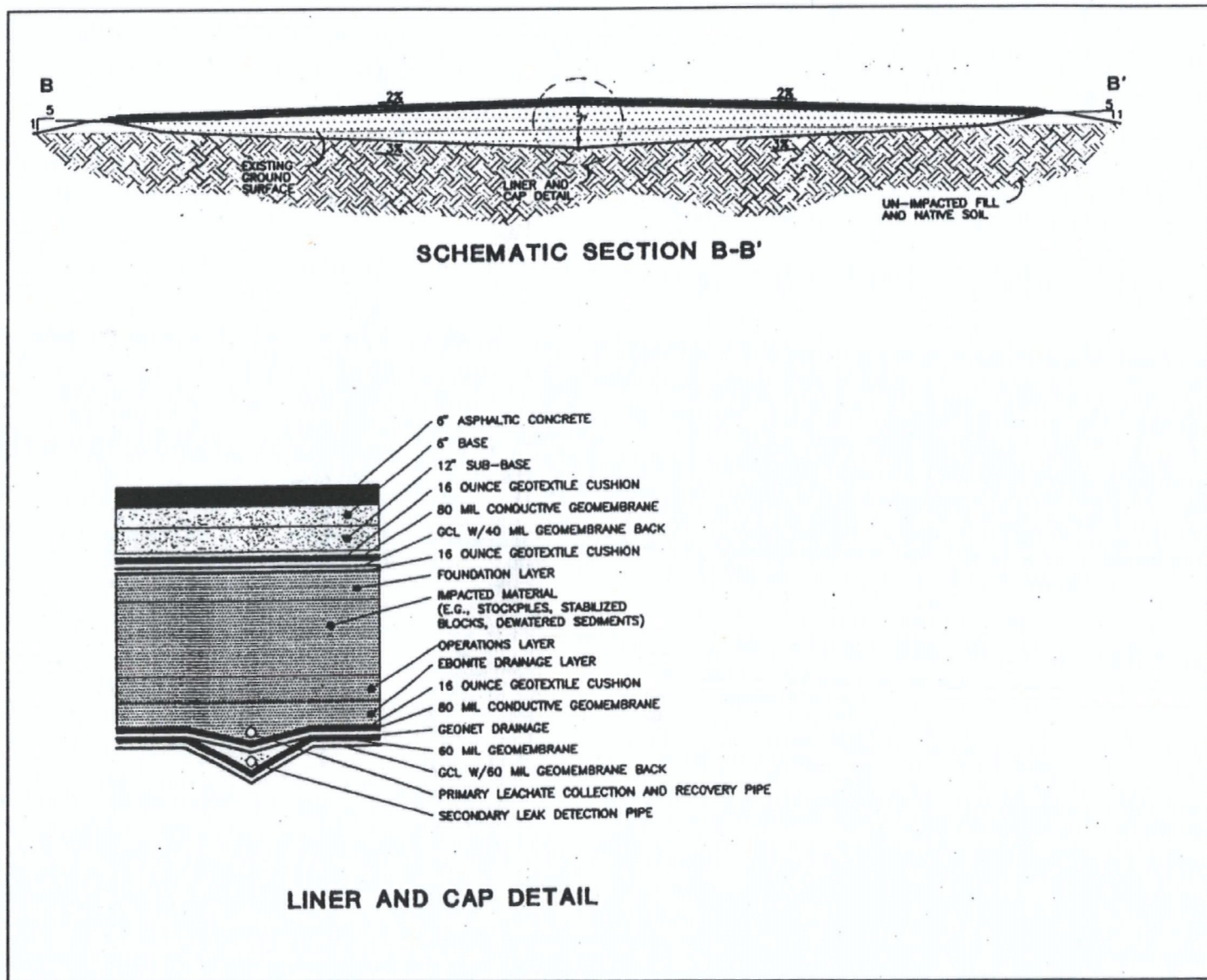


Figure 2

Surface water from the East Doane lake remnant was sampled in July 1995 by the Gould Site PRP Group. Lead was measured at 0.11 ppm. Other chemicals detected at low levels in the water sample included metals (cadmium, chromium, and zinc); petroleum hydrocarbons; herbicides (2,4-D, 2,4,5-T, and 2,4,5-TP); and furans.

The Gould PRPs submitted a proposed alternative cleanup plan in January 1996. The Amended Remedy Document described the basic components of this proposed amendment, including a conceptual design of the onsite containment facility. EPA and DEQ determined that a detailed design phase will be necessary to ensure that agency concerns, including those described below, are adequately addressed.

1) The design must provide for adequate control of dissipation rates of water during the filling of the East Doane Lake remnant, and monitoring and control of impacts from potential displacement of water and sediments.

2) The containment facility must be designed to allow implementation of future groundwater cleanup technologies. This may require excluding a portion of the Gould property.

3) The design must provide for adequate control of stormwater runoff and leachate.

4) The containment facility must be designed to provide long term structural stability and effective containment of the waste.

Comparison with the Nine Evaluation Criteria

EPA uses nine criteria to evaluate cleanup alternatives. An alternative must meet criteria 1 and 2, known as "threshold criteria," in order to be recommended. Criteria 3 through 7, called "balancing criteria," are evaluated to determine the best overall solution. After public comment, EPA may alter its preference on the basis of the last two "modifying" criteria. A discussion of the original remedy and modified remedy relative to the nine criteria follows.

1. *Overall protection of human health and the environment* determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

The potential critical pathways for lead identified in the endangerment assessment portion of original ROD were airborne exposure from on-site fugitive dust emissions; incidental ingestion of contaminated matte and soil; contact with skin and incidental ingestion of lead from surface water in the East Doane lake remnant. The proposed changes still address lead as the primary contaminant of concern and provide additional protection for organic chemicals that are commingled with waste materials. Routes of potential exposure to these materials are eliminated by the liner and cap components of the on-site containment facility.

The higher concentrations of contaminants are generally located in the upper sediments. An average of 1.5 - 2 feet of the contaminated sediments will be removed from the East Doane Lake remnant. EPA will determine actual depths based on data review and consultation with DEQ during the design phase to ensure that the levels of contaminants remaining are protective.

Containment of the stockpiled materials in a lined facility with a leachate (contaminated liquid resulting from water trickling through waste materials) collection system will further protect ground water quality. Air monitoring conducted at the site during past excavation has not detected levels of airborne contamination that constitute an unacceptable risk to human health and the environment.

2. *Compliance with applicable or relevant and appropriate requirements (ARARs)* evaluates whether the alternative meets state and federal environmental laws, regulations, and other requirements that pertain to the site or, if not, is a waiver justified.

The proposed remedy will be designed to comply with ARARs. There are no specific ARARs for lead in industrial soil, however a surface soil cleanup level of 1,000 ppm was established in the ROD.

Filling the East Doane lake remnant is an activity that would be regulated by the Clean Water Act. The area affected by this response action is approximately 3.5 acres. EPA will require a mitigation proposal to be developed and implemented to compensate for filling of the East Doane Lake remnant. Specific plans for implementation and monitoring will be developed and submitted for EPA approval as part of remedial design. Cleanup activities would comply with a general permit for authorization of the cleanup of hazardous and toxic waste.

The sediments and associated contaminated soils will be consolidated within the area of contamination. The onsite containment facility would not be a new unit subject to full RCRA regulation. The construction of liners, leachate collection, and cap, would be upgrading an existing landfill/unit.

The cap will reduce direct contact/ingestion threat, air emissions and infiltration of water through the waste material. A liner will provide additional protection against leaching and as a barrier to further protect groundwater.

The proposed plan would comply with federal and state ARARs by providing specific design and operating conditions that are developed by specific requirements of these ARARs. A detailed design phase will be required to ensure compliance with ARARs.

3. Short-term effectiveness considers how fast the alternative reaches the cleanup goal and the risks the alternative poses to workers, residents, and the environment during construction or implementation of the alternative.

Short term impacts are similar to those associated with the original remedy that were identified in ROD. The potential short term risk posed to the community is inhalation of airborne dust during movement of the contaminated materials. Ambient air monitoring conducted at the site during excavation and treatment activities indicates the airborne concentrations of chemicals of concern can be controlled so they do not reach levels which pose an unacceptable risk.

Measures will be taken to protect workers from airborne and dermal contact with contaminants. Short term impacts associated with the dredging of East Doane lake remnant, including increased concentrations of dissolved and suspended contaminants, were identified in the original remedy. The filling of the East Doane Lake remnant will need to be done at a rate that allows for gradual absorption of the displaced water. In addition, the use of temporary plastic covers for waste placed in the containment facility will minimize potential exposures prior to final capping.

4. Long-term effectiveness and permanence considers the ability of an alternative to maintain protection of human health and the environment over time, and the reliability of such protection.

A significant portion of the waste has undergone stabilization of lead, and additional untreated materials that are highly contaminated and considered principle threat waste will be treated to reduce risk in the event of a landfill failure. Direct contact will no longer be possible because the wastes will have been contained and/or capped, and the risk of leaching to ground water will be greatly reduced by the liner and leachate collection system.

5. Reduction of toxicity, mobility or volume evaluates an alternative's use of treatment to reduce the harmful effects of principle contaminants, their ability to move in the environment, and the amount of residual contamination remaining.

The treatment required in the original ROD remedy included waste separation and recycling, and stabilization to reduce the mobility of lead. A substantial portion of the contaminated site materials have already been treated, and additional treatment by stabilization may be required. EPA will determine the actual quantities and types of materials requiring further treatment based review of additional leaching test results and design information. Stabilization reduces mobility but does not reduce the toxicity or volume of waste material. The aboveground, lined and capped containment facility minimizes the low level threat of lead associated with

potential leaching to ground water. In addition, the threat of potential direct contact is eliminated by the cap.

The lead contaminated waste is commingled with low levels of organic compounds. Containment of the waste will be adequately protective without additional treatment of organics. The cost for treating such a large quantity of waste for organics would be orders of magnitude higher than the proposed remedy with little additional benefit. The remedy eliminates the potential routes of exposure, and is protective of human health and the environment for inorganic and organic contaminants.

6. *Implementability* considers the technical and administrative feasibility of implementing the alternative, such as relative availability of goods and services. Also, considers if the technology has been used successfully on other similar sites.

Continued operation of the existing remedy, although potentially feasible, is not a practical option and has not been successfully demonstrated at other sites. The proposed remedy can be implemented using established engineering and construction techniques. A detailed design phase will be necessary to ensure that construction and operation of the containment facility will be adequately protective. The detailed design will include special considerations for dredging and filling of the East Doane Lake remnant and handling of site materials. The services and materials to be utilized are readily available (e.g., import of fill materials, construction of liners, and placement of an asphalt cap), and have been used to provide protective remedies at other lead-contaminated sites.

7. *Cost* includes estimated capital and operation and maintenance (O&M) costs, as well as present worth costs. Present worth cost is the total cost of an alternative over time in terms of today's dollars.

The cost associated with the proposed remedy is estimated at \$10 to \$13 million, depending on the amount of material to be treated and the costs for East Doane Lake mitigation. Operation and maintenance

costs are estimated at \$90,000 for the first year which is expected to decrease over time. The estimated present worth of long term O&M is \$420,000. Cost estimates showed that completing the remedy in the ROD could be in excess of \$50 million.

8. *State acceptance* considers whether the state agrees with EPA's analyses and recommendations of the RI/FS and the Proposed Plan.

DEQ has been consulted about this site and has been consulted regarding the neighboring Rhone Poulenc site investigation. State concerns regarding the proposed remedy may be expressed during the public comment period. EPA will evaluate the state's comments and seek to address concerns related to the proposed remedy.

9. *Community acceptance* will be addressed in the ROD which will include a responsiveness summary that presents public comments and EPA's responses to those comments. Acceptance of the recommended alternative will be evaluated after the public comment period.

This ROD amendment process will not be completed until public comments on the proposed remedy are received, and written responses formulated. The written response will include a determination of which components of the proposed remedy interested persons in the community support, have reservations about, or oppose.

Your Comments

Your opinions on the recommended plan for the Gould Site are important to EPA. You may use the the space on the next page to write your comments, then fold and mail. Comments must be postmarked by May 1, 1996.

The Next Step

EPA will consider public comments received during the public comment period before deciding to implement the ROD amendment. The final cleanup action will be described in the Record of Decision (ROD) Amendment.

Your opinions on the recommended plan for the Gould Superfund site are important to EPA. Comments provided by the public are valuable in helping EPA select a final remedy for the site.

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State _____ Zip _____

Gould Superfund Site Public Comment Sheet

Name _____
Address _____
City _____
State _____ Zip _____

Place
Stamp
Here

Chip Humphrey
EPA, Oregon Operations Office
811 Sixth Avenue
Portland, OR 97201

Additional Information

Anyone interested in learning more about the investigation, the proposed changes to the cleanup, or the Superfund process, is encouraged to review the information in the repositories maintained for the Gould site. They contain copies of the Proposed ROD Amendment, the 1988 ROD, and other materials related to the site. The Information Repositories are located:

In Portland

The Multnomah County Library
1407 SW 4th Avenue

In Seattle

EPA's 7th Floor Records Center
1200 Sixth Avenue



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